BYV118, BYV118B series

FEATURES

- Low forward volt drop
- Fast switching
- Reverse surge capability
- High thermal cycling performance
- Low thermal resistance

SYMBOL a1 1 k2 a2 3

QUICK REFERENCE DATA

$$V_{R} = 35 \text{ V/ } 40 \text{ V/ } 45 \text{ V}$$

 $I_{O(AV)} = 10 \text{ A}$
 $V_{F} \le 0.6 \text{ V}$

GENERAL DESCRIPTION

Dual, common cathode schottky rectifier diodes in a conventional leaded plastic package and a surface mounting plastic package. Intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The BYV118 series is supplied in the SOT78 conventional leaded package. The BYV118B series is supplied in the SOT404 surface mounting package.

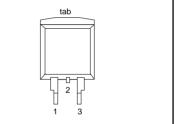
PINNING

PIN DESCRIPTION	
1	anode 1 (a)
2	cathode (k) ¹
3	anode 2 (a)
tab	cathode (k)



tab





LIMITING VALUES

Limiting values in accordance with the Absolute Maximum System (IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN.		MAX.		UNIT
		BYV118- BYV118B-		35 35	40 40	45 45	
V_{RRM}	Peak repetitive reverse voltage		-	35	40	45	V
V_{RWM}	Working peak reverse voltage		-	35	40	45	V
V _R	Continuous reverse voltage	$T_{mb} \leq 108 \ ^{\circ}C$	-	35	40	45	V
I _{O(AV)}	Average rectified forward current (both diodes conducting)	square wave; $\delta = 0.5$; T _{mb} ≤ 127 °C	-		10		A
I _{FRM}	Repetitive peak forward current (per diode)	square wave; $\delta = 0.5$; T _{mb} $\leq 127 \degree$ C	-		10		A
_{FSM}	Non-repetitive peak forward current per diode	t = 10 ms t = 8.3 ms sinusoidal; $T_j = 125$ °C prior to surge; with reapplied V _{RRM(max)}	-		100 110		AA
I _{RRM}	Peak repetitive reverse surge current per diode	pulse width and repetition rate limited by T _{i max}	-		1		A
T _j	Operating junction temperature	Innition by Ijmax	-		150		°C
T _{stg}	Storage temperature		- 65		175		°C

1. It is not possible to make connection to pin 2 of the SOT404 pckage.

BYV118, BYV118B series

THERMAL RESISTANCES

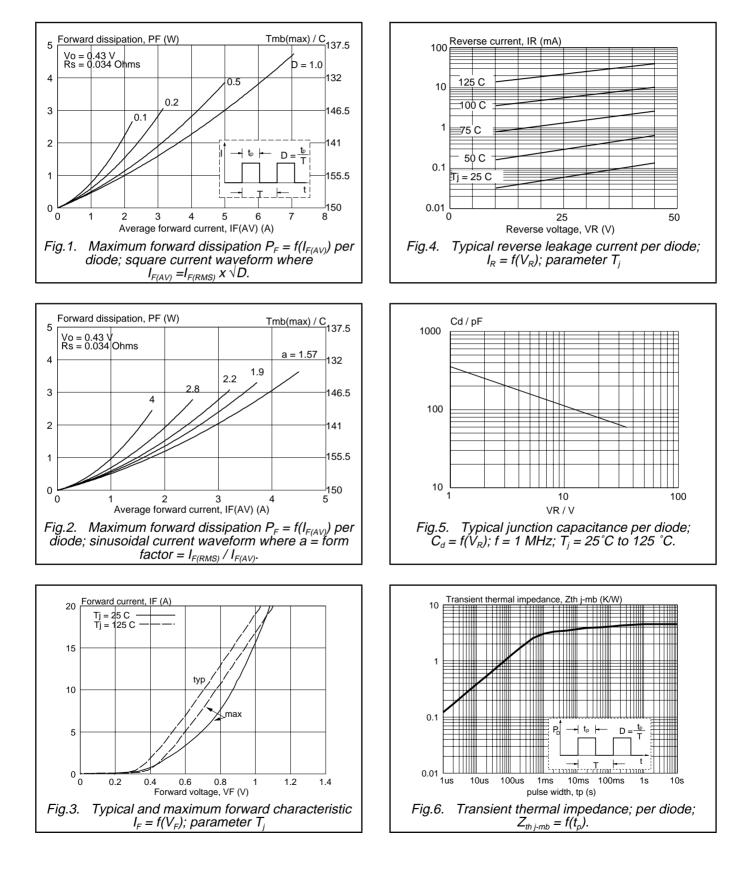
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
R _{th j-mb} R _{th j-a}	to mounting base	per diode both diodes SOT78 package in free air SOT404 package, pcb mounted, minimum footprint, FR4 board	- - -	- 60 50	4.5 3 - -	K/W K/W K/W K/W

ELECTRICAL CHARACTERISTICS

 $T_i = 25$ °C unless otherwise specified

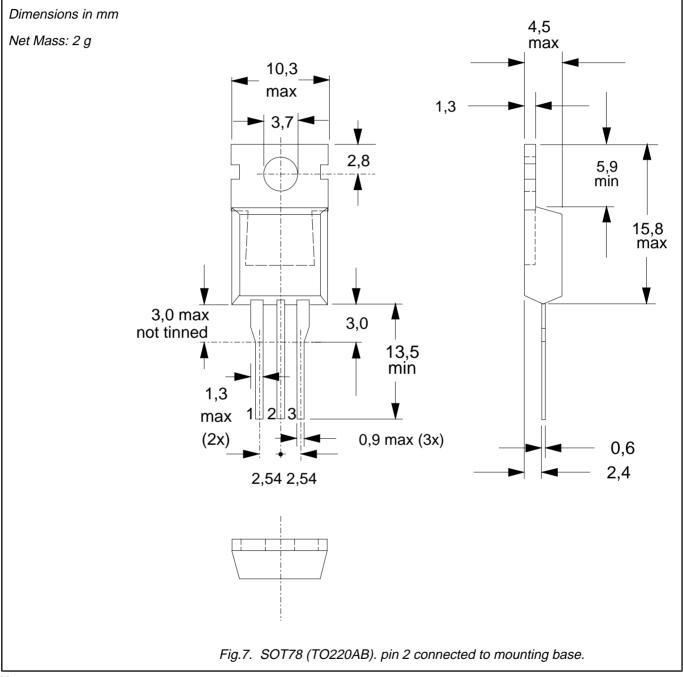
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _F	Forward voltage per diode	I _F = 5 A; T _j = 125°C I _F = 10 A	-	0.52 0.72	0.6 0.87	V V
I _R	Reverse current per diode	$\dot{V}_{R} = V_{RWM}$	-	0.06	0.5	mA mA
C _d	Junction capacitance per diode	$V_{R} = V_{RWM}^{c}$; T _j = 100°C V _R = 5 V; f = 1 MHz, T _j = 25°C to 125°C	-	155	-	pF

BYV118, BYV118B series



BYV118, BYV118B series

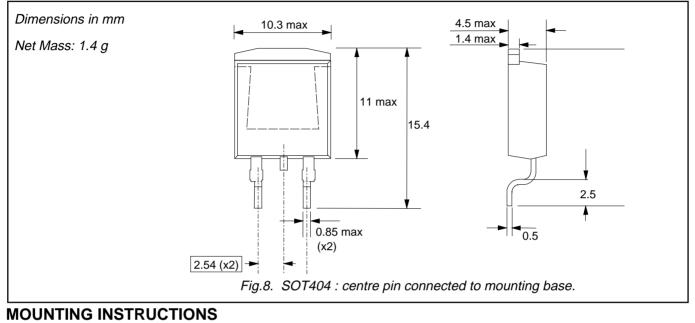
MECHANICAL DATA

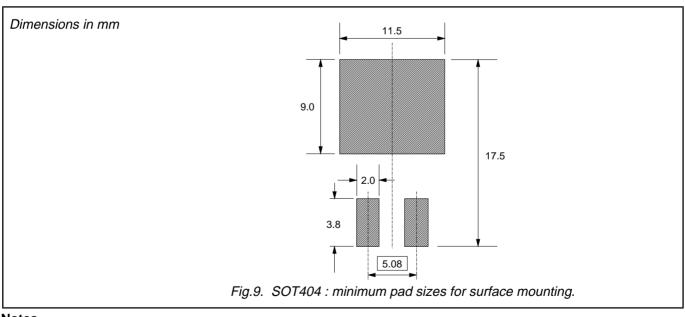


Notes 1. Refer to mounting instructions for SOT78 (TO220) envelopes. 2. Epoxy meets UL94 V0 at 1/8".

BYV118, BYV118B series

MECHANICAL DATA





Notes

1. Plastic meets UL94 V0 at 1/8".

BYV118, BYV118B series

DEFINITIONS

Data sheet status					
Objective specification	specification This data sheet contains target or goal specifications for product development.				
Preliminary specification	specification This data sheet contains preliminary data; supplementary data may be published later				
Product specification	This data sheet contains final product specifications.				
Limiting values					
Limiting values are given in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of this specification is not implied. Exposure to limiting values for extended periods may affect device reliability.					
Application information					
Where application information is given, it is advisory and does not form part of the specification.					
© Philips Electronics N.V. 1998					
All rights are reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.					
The information presented in this document does not form part of any quotation or contract, it is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.					

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.